# LIST OF CONTENTS

## NUMBER 1


| | | |
|---|---|---|
| **A. S. Malik** | 1 | Dynamic generating costs in DSM planning |
| **L. Dambrosio** and **B. Fortunato** | 9 | One-step-ahead adaptive control of a wind-driven, synchronous generator system |
| **S. Kaneco, H. Kurimoto, Y. Shimizu, K. Ohta** and **T. Mizuno** | 21 | Photocatalytic reduction of $CO_2$ using $TiO_2$ powders in supercritical fluid $CO_2$ |
| **Z. Güngör** and **G. Bozkurt** | 31 | Economical comparison of imported energy sources in terms of long-term production planning |
| **S. C. Bhattacharya, M. Arul Joe, Z. Kandhekar, P. Abdul Salam** and **R. M. Shrestha** | 43 | Greenhouse-gas emission mitigation from the use of agricultural residues: the case of ricehusk |
| **V. Butala** and **P. Novak** | 61 | Gasification of a brown coal chunk in flowing air |
| **J. G. Koomey, S. A. Mahler, C. A. Webber** and **J. E. McMahon** | 69 | Projected regional impacts of appliance efficiency standards for the US residential sector |


## NUMBER 2


| | | |
|---|---|---|
| **M.A. Hammad** | 85 | Characteristics of solar water pumping in Jordan |
| **M. Sidrach-de-Cardona** and **Ll. M. López** | 93 | Performance analysis of a grid-connected photovoltaic system |
| **H.-M. Yeh, C.-D. Ho** and **K.-J. Hwang** | 103 | Energy and mass balances in open-type multiple-effect solar distillers with air flow through the last effect |
| **G. Bisio** and **G. Rubatto** | 117 | Sondhauss and Rijke oscillations—thermodynamic analysis, possible applications and analogies |
| **M. Dreher, M. Wietschel, M. Göbelt** and **O. Rentz** | 133 | Energy price elasticities of energy-service demand for passenger traffic in the Federal Republic of Germany |
| **A. Demirbaş** | 141 | Properties of charcoal derived from hazelnut shell and the production of briquettes using pyrolytic oil |
| **G.N. Tiwari** and **P.K. Sharma** | 151 | Off-season cultivation of cucumbers in a solar greenhouse |

**D. Diakoulaki, C. Zopounidis, G. Mavrotas** and **M. Doumpos** 157 The use of a preference disaggregation method in energy analysis and policy making

**M.A. Rosen** 167 Second-law analysis of aquifer thermal energy storage systems

**NUMBER 3**

**S. G. Chavez, J. X. Bernat** and **H. L. Coalla** 183 Forecasting of energy production and consumption in Asturias (northern Spain)

**L. Huilin, Z. Guangbu, B. Ruoshan, Y. Lidan** and **Q. Yukun** 199 Modeling of coal combustion in a 25-MW FBC power plant

**A.M. Li, X.D. Li, S.Q. Li, Y. Ren, N. Shang, Y. Chi, J.H. Yan** and **K.F. Cen** 209 Experimental studies on municipal solid waste pyrolysis in a laboratory-scale rotary kiln

**P. Balachandra** and **V. Chandru** 219 Modelling electricity demand with representative load curves

**U. Atikol, M. Dagbasi** and **H. Güven** 231 Identification of residential end-use loads for demand-side planning in northern Cyprus

**D. Feretić, Ž. Tomšić** and **N. Čavlina** 239 Feasibility analysis of wind-energy utilization in Croatia

**W. Aziz, S.K. Chaturvedi** and **A. Kheireddine** 247 Thermodynamic analysis of two-component, two-phase flow in solar collectors with application to a direct-expansion solar-assisted heat pump

**Y. H. Mori** 261 Critique of "Dissolution of $CO_2$ droplets in the ocean" by H. Teng and A. Yamasaki, *Energy—The International Journal*, 1997, **22**, 751

**NUMBER 4**

**L. Schibuola** 273 Experimental analysis of a condenser heat recovery in an air conditioning plant

**S.C. Bhattacharya, A.H.Md. Mizanur Rahman Siddique** and **H.-L. Pham** 285 A study on wood gasification for low-tar gas production

**B.W. Ang** and **F.Q. Zhang** 297 Inter-regional comparisons of energy-related $CO_2$ emissions using the decomposition technique

**S. Alvarado, P. Maldonado** and **I. Jaques** 307 Energy and environmental implications of copper production

**W. Rivera, R.J. Romero, R. Best** and **C.L. Heard** 317 Experimental evaluation of a single-stage heat transformer operating with the water/Carrol™ mixture

**B.A/K Abu-Hijleh, M. Abu-Qudais** and **E. Abu Nada** 327 Numerical prediction of entropy generation due to natural convection from a horizontal cylinder

**C.A. Balaras, M. Santamouris, D.N. Asimakopoulos, A.A. Argiriou, G. Paparsenos** and **A.G. Gaglia** 335 Energy policy and an action plan for renewable energy sources (RES) for the Hellenic islands of the North Aegean region

**M. Ranjan** and **V.K. Jain** 351 Modelling of electrical energy consumption in Delhi


## NUMBER 5


**B.G. Akinoğlu, A.M. Shariah** and **A. Ecevit** 363 Solar domestic water heating in Turkey

**L. Neij** 375 Cost dynamics of wind power

**H. Akbari, S. Konopacki** and **M. Pomerantz** 391 Cooling energy savings potential of reflective roofs for residential and commercial buildings in the United States

**T. Jash** and **S. Basu** 409 Development of a mini-biogas digester for lighting in India

**X. Wang, Z. Feng** and **Q. Ding** 413 Increased energy use in Jiangsu province of China with protection of the environment

**Y. Ercan** 419 Emission-reduction strategies for energy-supply systems near urban areas

**S.-H. Cho** and **M. Zaheer-uddin** 433 An experimental study of multiple parameter switching control for radiant floor heating systems

*Note*

**J. B. Akarakiri** 445 Private electric power generation as an alternative in Nigeria

*Book Review*
**C. Clague** 449 Climate and human change: disaster or opportunity?

## NUMBER 6

**J. Manninen** and **X.X. Zhu** 451 Optimal flowsheeting synthesis for power station design considering overall integration

**E. Vine, H. Nakagami** and **C. Murakoshi** 479 The evolution of the US energy service company (ESCO) industry: from ESCO to Super ESCO

**X. Wang, Z. Feng, Xingfeng Gao** and **K. Jiang** 493 On household energy consumption for rural development: a study on Yangzhong County of China

**M. Kanoğlu** and **Y.A. Çengel** 501 Economic evaluation of geothermal power generation, heating, and cooling

**A.K. Tripathi, P.V.R. Iyer** and **T.C. Kandpal** 511 Financial analysis of biomass gasifier based water pumping in India

**M. Bojić, G. Papadakis** and **S. Kyritsis** 519 Energy from a two-pipe, earth-to-air heat exchanger

**F. Xu** and **D.Y. Goswami** 525 Thermodynamic properties of ammonia–water mixtures for power-cycle applications

**M.S. Alam, A. Roychowdhury, K.M. Waliuzzaman** and **A.M.Z. Huq** 537 Energy flow in the family farming system of a traditional village in Bangladesh

*Book Review*
**R.A. Frosch** 547 Global Technology and Change

## NUMBER 7

**H. Lund, F. Hvelplund, I. Kass, E. Dukalskis** and **D. Blumberga** 549 District heating and market economy in Latvia

**A. Akisawa, Y.T. Kang, Y. Shimazaki** and **T. Kashiwagi** 561 Environmentally friendly energy system models using material circulation and energy cascade—the optimization work

**B.W. Ang, J.P. Huang** and **K.L. Poh** 579 Break-even price of distributed generation under uncertainty

**E. L. Vine** and **E. Kazakevicius** 591 Residential energy use in Lithuania: the prospects for energy efficiency

**L.Z. Zhang** and **L. Wang** 605 Momentum and heat transfer in the adsorbent of a waste-heat adsorption cooling system

**M.H. Saidi** and **M.R. Allaf Yazdi** 625 Exergy model of a vortex tube system with experimental results

**Q. Wang, Z. Luo, X. Li, M. Fang, M. Ni** and **K. Cen** 633 A mathematical model for a circulating fluidized bed (CFB) boiler

**NUMBER 8**

655 A tribute to Dr Edward A. Fletcher

**A. Schafer, D.G. Victor** 657 Global passenger travel: implications for carbon dioxide emissions

**K.-H. Funken, F.-J. Müller, J. Ortner, K.-J. Riffelmann** and **C. Sattler** 681 Solar collectors versus lamps—a comparison of the energy demand of industrial photochemical processes as exemplified by the production of $\epsilon$-caprolactam

**F.J. Olmo, J. Vida, I. Foyo, Y. Castro-Diez** and **L. Alados-Arboledas** 689 Prediction of global irradiance on inclined surfaces from horizontal global irradiance

**J. Vida, I. Foyo-Moreno** and **L. Alados-Arboledas** 705 Performance validation of MURAC, a cloudless sky radiance model proposal

**R.J. Spiegel, J.L. Preston** and **J.C. Trocciola** 723 Fuel cell operation on landfill gas at Penrose Power Station

**M.S. Alam, K.K. Islam** and **A.M.Z. Huq** 743 Simulation of rural household fuel consumption in Bangladesh

*Note*

**A. Bejan** 753 The First NATO Advanced Study Institute on Thermodynamic Optimization (Neptun, Romania, 1998)

## NUMBER 9


| | | |
|---|---|---|
| **J.O. Jaber, S.D. Probert** and **P.T. Williams** | 761 | Evaluation of oil yield from Jordanian oil shales |
| **M.A. Korobitsyn, P. Jellema** and **G.G. Hirs** | 783 | Possibilities for gas turbine and waste incinerator integration |
| **J.-I. Yoon** and **O.-K. Kwon** | 795 | Cycle analysis of air-cooled absorption chiller using a new working solution |
| **B. Hillring** | 811 | Regional prices in the Swedish wood-fuel market |
| **B.A. Akash** and **M.S. Mohsen** | 823 | Energy analysis of Jordan's urban residential sector |


## NUMBER 10


| | | |
|---|---|---|
| **A. Satman** and **N. Yalcinkaya** | 833 | Heating and cooling degree-hours for Turkey |
| **D.G. Streets** and **S.T. Waldhoff** | 841 | Greenhouse-gas emissions from biofuel combustion in Asia |
| **H.-M. Yeh, C.-D. Ho** and **J.-Z. Hou** | 857 | The improvement of collector efficiency in solar air heaters by simultaneously air flow over and under the absorbing plate |
| **T.M. Alkhamis** and **M.M. Kablan** | 873 | A process for producing carbonaceous matter from tar sand, oil shale and olive cake |
| **V. Badescu** | 883 | Correlations to estimate monthly mean daily solar global irradiation: application to Romania |
| **R. Hartway, S. Price** and **C.K. Woo** | 895 | Smart meter, customer choice and profitable time-of-use rate option |


## NUMBER 11


| | | |
|---|---|---|
| **F. Birol** and **M. Argiri** | 905 | World energy prospects to 2020 |
| **M.A. Habib, S.A.M. Said, M.A. El-Hadidy** and **I. Al-Zaharna** | 919 | Optimization procedure of a hybrid photovoltaic wind energy system |
| **J. Lewins** and **A. Bejan** | 931 | Vortex tube optimization theory |

**F. Manzini** and **M. Martínez** 945 Using final energies to plan a sustainable future for Mexico

**M. Sturzenegger** and **P. Nüesch** 959 Efficiency analysis for a manganese-oxide-based thermochemical cycle

**S. Göktun** 971 Solar powered cogeneration system for air conditioning and refrigeration

**NUMBER 12**

**E.H. Amer** and **J.K. Nayak** 979 Evaluation of a transient test procedure for solar flat-plate collectors

**G. Ares de Parga, F. Angulo-Brown** and **T.D. Navarrete-González** 997 A variational optimization of a finite-time thermal cycle with a nonlinear heat transfer law

**M. Ishida** 1009 The role and limitations of endoreversible thermodynamics

**H. Bo, E.M. Gustafsson** and **F. Setterwall** 1015 Tetradecane and hexadecane binary mixtures as phase change materials (PCMs) for cool storage in district cooling systems

**R. Chicurel** 1029 A compromise solution for energy recovery in vehicle braking

**E. P. Gyftopoulos** 1035 Infinite time (reversible) versus finite time (irreversible) thermodynamics: a misconceived distinction

I *List of Contents and Author Index for Volume 24 (1999)*